

CLAIMS

What is claimed is:

1 1. A method of limiting propagation of requests for a file comprising:
 2 sharing index information associated with the file from a first network node
 3 to a second network node in a peer to peer system;
 4 updating a distance counter in the index information by the second
 5 network node; and
 6 setting a request propagation limit in a request packet for requesting the
 7 file by the second network node to the distance counter.

1 2. The method of claim 1, wherein the distance counter represents a
 2 maximum number of hops between network nodes from a creator of the file to a
 3 requester of the file within the peer to peer system.

1 3. The method of claim 1, further comprising sharing the index
 2 information from the second network node to a third network node, updating the
 3 distance counter by the third network node, and setting the request propagation
 4 limit by the third network node.

1 4. The method of claim 1, further comprising receiving the request packet
 2 by a network node and forwarding the request packet to another network node
 3 only when the request propagation limit is not reached.

1 5. The method of claim 1, further comprising creating the file and creating
 2 the index information by a single network node.

1 6. The method of claim 5, further comprising assigning a globally unique
 2 identifier to the file by the first network node.

1 7. The method of claim 1, wherein the index information is shared
2 between the first network node and the second network node only when a user
3 operating the first network node has a social connection to a user operating the
4 second network node.

1 8. An article comprising: a storage medium having a plurality of machine
2 readable instructions, wherein when the instructions are executed by a
3 processor, the instructions provide for limiting propagation of requests for a file
4 by sharing index information associated with the file from a first network node to
5 a second network node in a peer to peer system; updating a distance counter in
6 the index information by the second network node; and setting a request
7 propagation limit in a request packet for requesting the file by the second
8 network node to the distance counter.

1 9. The article of claim 8, wherein the distance counter represents a
2 maximum number of hops between network nodes from a creator of the file to a
3 requester of the file within the peer to peer system.

1 10. The article of claim 8, further comprising instructions for sharing the
2 index information from the second network node to a third network node,
3 updating the distance counter by the third network node, and setting the request
4 propagation limit by the third network node.

1 11. The article of claim 8, further comprising instructions for receiving the
2 request packet by a network node and forwarding the request packet to another
3 network node only when the request propagation limit is not reached.

1 12. The article of claim 8, further comprising instructions for creating the
2 file and creating the index information by a single network node.

1 13. The article of claim 12, further comprising instructions for assigning a
2 globally unique identifier to the file by the first network node.

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1 14. A method of operating a plurality of network nodes to limit
2 propagation of requests for a file in a peer to peer system comprising:
3 creating a file and assigning a globally unique identifier to the file by a first
4 network node;
5 sharing index information associated with the file by the first network node
6 with a second network node in the peer to peer system;
7 updating a distance counter in the index information by the second
8 network node to denote the sharing of the index information;
9 setting a request propagation limit in a request packet for requesting the
10 file by the second network node to the distance counter; and
11 forwarding the request packet to another network node only when a
12 propagation counter for the request packet does not exceed the request
13 propagation limit.

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1 15. The method of claim 14, further comprising updating the propagation
2 counter when a network node forwards the request packet to another network
3 node.

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1 16. The method of claim 14, further comprising sending the requested file
2 to the second network node.

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1 17. The method of claim 14, further comprising repeating the sharing and
2 updating steps for a plurality of network nodes.

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1 18. The method of claim 14, wherein sharing the index information
2 comprises sharing the index information only among network nodes operated by
3 users with a social connection to each other.

1 19. The method of claim 14, further comprising encrypting the index
2 information prior to sharing the index information.

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1 20. An article comprising: a storage medium having a plurality of machine
2 readable instructions, wherein when the instructions are executed by a
3 processor, the instructions provide for operating a plurality of network nodes to
4 limit propagation of requests for a file in a peer to peer system by creating a file
5 and assigning a globally unique identifier to the file by a first network node;
6 sharing index information associated with the file by the first network node with a
7 second network node in the peer to peer system; updating a distance counter in
8 the index information by the second network node to denote the sharing of the
9 index information; setting a request propagation limit in a request packet for
10 requesting the file by the second network node to the distance counter; and
11 forwarding the request packet to another network node only when a propagation
12 counter for the request packet does not exceed the request propagation limit.

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1 21. The article of claim 20, further comprising instructions for updating
2 the propagation counter when a network node forwards the request packet to
3 another network node.

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1 22. The article of claim 20, further comprising instructions for sending the
2 requested file to the second network node.

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1 23. The article of claim 20, further comprising instructions for repeating
2 the sharing and updating steps for a plurality of network nodes.

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1 24. The article of claim 20, wherein instructions for sharing the index
2 information comprises instructions for sharing the index information only among
3 network nodes operated by users with a social connection to each other.

1 25. The article of claim 20, further comprising instructions for encrypting
2 the index information prior to sharing the index information.

1 26. A peer to peer file sharing system comprising:
2 a plurality of network nodes, wherein each network node creates files and
3 assigns a globally unique identifier to each created file, shares index information
4 associated with each of the created files with other network nodes, updates a
5 distance counter in the index information to denote sharing of the index
6 information, sets a request propagation limit in a request packet for requesting a
7 file to the distance counter; and forwards the request packet to another network
8 node only when the request propagation limit is not reached.

1 27. The peer to peer system of claim 26, wherein the files store at least
2 one of digital photographs, digital videos, digital audio data, image data, or text
3 data.

1 28. The peer to peer system of claim 26, wherein the network nodes of
2 the peer to peer system are operated by users having a social connection.

1 29. The peer to peer system of claim 26, wherein the distance counter
2 represents a maximum number of hops between network nodes from a creator
3 of a file to a requester of the file within the peer to peer system.

1 30. The peer to peer system of claim 26, wherein only one network node
2 creates a selected file and creates index information for the selected file.